



State of Utah  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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March 30, 1994

TO: Wayne Hedberg, Permit Supervisor

FROM: Lynn Kunzler, Reclamation Specialist *by KJ*

RE: Review Comments for Proposed Land Application of Municipal Biosolids, Kennecott Utah Copper Corporation, M/035/002.

Kennecot needs to add potassium to the soil analysis. also, these analysis need to be done initially on the biosolids and co-compost to be added to the test plots. All monitoring data needs to be submitted to the Division (either as a separate monitoring report or as part of the annual mine report).

The proposed seed mix does not provide for much diversity. It is suggested that the following species be added:

Small Burnett	Sanguisorba minor	2 lbs
Intermediate Wheatgrass	Agropyron intermedium	2 lbs
Great Basin Wildrye	Elymus cinereus	2 lbs
Basin Big Sagebrush	Artemisia tridentata t.	.5 lbs
Rubber Rabbitbrush	Chrysothamnus nauseosus	.5 lbs
4-wing Saltbush	Atriplex canescens	2 lbs
Forage Kochia	Kochia prostrata	1 lb

With these additions, the rates for the other species listed on Table 1 could be reduced to 1/2 the stated rate.

These comments could be incorporated as conditions into an approval of the project.



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**TABLE 1**  
**Sewage Sludge Land Application**  
**Seed Mixes**

<u>Common name</u>	<u>Scientific name</u>	<u>PLS lbs/acre</u>
<b>Stabilization Cover Crop</b>		
Winter rye	Secale cereale	30
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Total		30 lbs/acre
<b>Perennial Mix</b>		
Yellow sweetclover	Melilotus officinalis	3
Tall wheatgrass	Agropyron elongatum	5
Sheep fescue	Festuca ovina	3
Alfalfa (Ranger)	Medicago sativa	5
Winter rye	Secale cereale	10
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Total		26 lbs/acre